

REMARKS

Claims 3-6 and 8-26 are pending in this application.

Claims 3-6 and 8-26 are rejected.

The office action dated September 30, 2003 indicates that claim 11 is rejected under 35 U.S.C. §112, second paragraph. The amendment above to claim 11 is believed to overcome this '112 rejection.

Claim 8 has been amended for clarity. Claim 10 has been amended to depend properly from amended claim 8

The office action dated January 24, 2003 indicates that claims 8 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wober et al. 5,475,769 in view of Haruki 5,489,939 or Takei U.S. Patent No. 5,530,474 or Spaulding et al. U.S. Patent No. 5,805,213. These rejections are respectfully traversed.

Amended claim 8 recites a method of processing an input digital image produced by an optical system. The input image has less than full color information at each pixel. For example, the input image has only one of green information, red information and blue information (sampled information) at each pixel. In contrast, a digital image having "full color" at each pixel would have red, green and blue information at each pixel.

The method of claim 8 can be used to generate an output image having full color information at each pixel from an input image having less than full color information at each pixel. The method of amended claim 8 includes accessing an operator including an array of demosaicing weights, values of the weights

determined by at least one property of the optical system; and applying the operator to the input image to produce an output image having full color at each of a plurality of pixels.

The method of claim 8 is not taught or suggested by the documents made of record, alone or in combination. As explained in the Background of the application, Wober et al. describe a method for generating missing color information by computing a weighted average of pixel values in the neighborhood of the pixel whose missing color information is being computed. Wober et al.'s method utilizes one set of weights for all images. Wober et al. do not teach or suggest demosaicing weights having values determined by at least one property of an optical system.

None of the other documents teach or suggest that demosaicing weights can have values determined by at least one property of an optical system. Haruki et al. disclose a method of performing white balance adjustment on a signal generated by a video camera. White balance adjustment is performed to adjust wavelength distribution of light from differing light sources (see col. 1, lines 14-21). It does not involve estimating missing color information from sampled information.

Haruki et al. do not teach or suggest performing demosaicing on an output of the video camera, let alone an operator including demosaicing weights that are determined by at least one property of the video camera. The office action cites passages at columns 13-14 of Haruki et al. However, these passages relate to white balance adjustment, not demosaicing.

Takei also relates to white balance correction of a video signal. The office action cites passages at columns 13-14 of Takei. However, these passages relate to white balance adjustment. These passages do not teach or suggest estimating

missing color information from sampled information, let alone an operator including demosaicing weights that are determined by at least one property of an optical system.

Spaulding et al. disclose a method for performing color correction on a digital image generated by a digital camera to account for variations in scene illuminant (see col. 5, lines 34-41). The office action cites the Abstract of Spaulding et al. However, the Abstract does not teach, hint or remotely suggest estimating missing color information from sampled information, let alone an operator including demosaicing weights that are determined by at least one property of an optical system.

Thus none of the cited documents teach or suggest an operator including demosaicing weights that are determined by at least one property of an optical system. Therefore, claim 8 and its dependent claims 3-6, 9-17 and 21-25 should be allowed over the documents made of record.

Claim 18 recites a method of generating a transformation matrix for demosaicing a digital image. The method comprises using camera parameters to design coefficients for the transformation matrix.

None of the cited documents teach or suggest this limitation. Therefore, claim 18 and its dependent claims 19-20 and 26 should be allowed over the documents made of record.

The examiner is respectfully requested to withdraw the rejections of the claims and issue a notice of allowability. The examiner is invited to contact the undersigned to discuss any remaining issues.